

"PATENT"

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)	
)	
LESTER F. LUDWIG)	
)	Group No: UNKNOWN
SERIAL NO.: UNKNOWN)	
)	Examiner: UNKNOWN
FILED: October 10, 2003)	
)	
FOR: FUNCTIONAL EXTENSIONS OF)	
TRADITIONAL MUSIC KEYBOARDS)	

Commissioner for Patents
Post Office Box 1450
Alexandria, Virginia 22313-1450

Sir:

INFORMATION DISCLOSURE STATEMENT

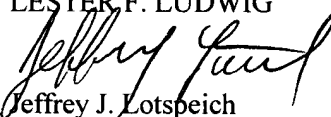
Applicant hereby cites the documents listed in accompanying Form PTO/SB/08A with respect to the above-referenced patent application under the provisions of 37 CFR, §§ 1.56, 1.97 and 1.98. With two exceptions, the documents listed on this Form are issued U.S. patents or published U.S. patent applications, or have been made of record in parent applications Nos. 09/812,400 and 09/313,533. Accordingly, Applicant is not submitting duplicate copies of these documents, but requests that they be listed on the face of any patent granted on the above application (See 1138 TMOG 39, second column, last paragraph, last sentence). A foreign patent application (document B1) and a publication (document C92) are newly submitted references and copies of such are enclosed. The filing of this Information Disclosure Statement will not be construed to mean that a search was conducted or that no other material information, as defined by 37 CFR 1.56, exists.

The Examiner is respectfully requested to make the listed documents of record in connection with the prosecution of the subsection application.

Respectfully submitted,

LESTER F. LUDWIG

By:


Jeffrey J. Lotspeich
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Sheet

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of

13

Complete if Known

Application Number

Filing Date

10 October 2003

First Named Inventor

Lester F. Ludwig

Group Art Unit

Examiner Name

Attorney Docket Number

2738-16

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
	A1	US-1,947,020	02-13-1934	Ranger	
	A2	US-3,493,669	02-03-1970	Elbrecht et al.	
	A3	US-3,591,699	07-06-1971	Cutler	
	A4	US-3,612,741	10-12-1971	Marshall	
	A5	US-3,651,242	03-21-1972	Evans	
	A6	US-3,730,046	05-01-1973	Spence	
	A7	US-3,742,133	06-26-1973	Cohen	
	A8	US-3,805,091	04-16-1974	Colin	
	A9	US-3,813,473	05-28-1974	Terymenko	
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	A12	US-3,962,945	06-15-1976	Creager et al.	
	A13	US-4,075,921	02-28-1978	Heet	
	A14	US-4,080,867	03-28-1978	Ratanangsu	
	A15	US-4,117,413	09-26-1978	Moog	
	A16	US-4,122,742	10/31/1978	Deutsch	
	A17	US-4,151,368	04-24-1979	Fricke et al.	
	A18	US-4,182,213	01-08-1980	Iodice	
	A19	US-4,274,321	06-23-1981	Swartz	
	A20	US-4,318,327	03-09-1982	Toups	

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		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				
	B1	EP-0 574 213-A1	12-15-1993	Synaptics, Inc.		

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⁴ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁵ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁶ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁷ Applicant is to place a check mark here if English language Translation is attached.

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	A21	US-4,365,533	12-28-1982	Clark, Jr. et al.	
	A22	US-4,781,099	11-01-1988	Koike	
	A23	US-4,794,838	01-03-1989	Corrigau, III	
	A24	US-4,797,608	01-10-1989	White	
	A25	US-4,852,444	08-01-1989	Hoover et al.	
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	A37	US-5,357,048	10-18-1994	Sgroi	
	A38	US-5,378,850	01-03-1995	Tumura	
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	A40	US-5,442,168	08-15-1995	Gurner et al.	

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	A42	US-5,471,008	11-28-1995	Fujita et al.	
	A43	US-5,475,214	12-12-1995	DeFranco et al.	
	A44	US-5,565,641	10-15-1996	Gruenbaum	
	A45	US-5,585,588	12-17-1996	Tumura	
	A46	US-5,659,145	08-19-1997	Weil	
	A47	US-5,659,466	08-19-1997	Norris et al.	
	A48	US-5,665,927	09-09-1997	Taki et al.	
	A49	US-5,668,338	09-16-1997	Hewitt et al.	
	A50	US-5,675,100	10-07-1997	Hewlett	
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First Named Inventor

Lester F. Ludwig

Group Art Unit

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OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	C1	"Biax True Stereo Pickups," product description, Musician's Friend catalog.	
	C2	"Korg's New Z-1 Helps Fiddler Keep His Funk", Music and Sound Retailer, Mar. 1998.	
	C3	"Synaptics Targets Vision, Sound processing."	
	C4	"Yamaha VL1", advertisement, Electronic Musician, Apr. 1994.	
	C5	APPELMAN, D. RALPH, The Science of Vocal Pedagogy, Theory and Applications, 1967, Indiana University Press, Bloomington, Indiana, USA.	
	C6	Biaxe Ragamaster, Box 15426, Stamford, CT, 06901-0426, USA.	
	C7	BICANIC, DANE, ed. Photoacoustic and Photothermal Phenomena III. 1992, vol. 69, Springer-Verlag, Berlin Heidelberg, Germany.	
	C8	BORMANS, JAN "MPEG-4 systems need specialized CPUs", Electronic Engineering Times, Jan. 25, 1999.	
	C9	Boss DF-2, Roland Corporation, 7200 Dominion Circle, Los Angeles, CA 90040-3696, USA.	
	C10	Boss OC-2 Service Manual, Roland Corporation, 7200 Dominion Circle, Los Angeles 90040-3696, CA, USA.	
	C11	Boss SE-70 Super Effects Processor Algorithm Guide, Roland Corporation, 7200 Dominion Circle, Los Angeles, CA 90040-3696, USA.	

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	C12	Boss SE-70 Super Effects Processor Owners Manual, Roland Corporation, 7200 Dominion Circle, Los Angeles, CA 90040-3696, USA.	
	C13	CP-40 Pitch to Midi Converter, Roland, 7200 Dominion Circle, Los Angeles, CA 90040-3696, USA.	
	C14	DMP9-16 Digital Mixing Processor, Yamaha Corporation, PO Box 1, Hamatsu, Japan.	
	C15	DP/4, Ensoniq, 155 Great Valley Parkway, Malvern, PA 19355, USA.	
	C16	E-Bow, Heet Sound Products. PO Box 3312, 611 Ducommun St., Los Angeles, CA 90051, USA.	
	C17	EPSTEIN, "The Search for New Chemical Oscillators," in Chemical Instabilities, Nicolis and Baras (eds.), 1984, D.Reidel Publishing, Dordrecht/Boston/Lancaster.	
	C18	EPSTEIN, IRVING R, "New Chemical Oscillators", Non-Equilibrium in Chemical Systems, 1984, Springer-Verlag, Berlin/Heidelberg, Germany.	
	C19	Ernie Ball, Volume Pedal, Musician's Friend Catalog.	
	C20	Etc., PETER, Letter to Editor, Experimental Musical Instruments, Jun., 1996.	
	C21	EWI3020, AKAI Corporation, Box 2344 Fort Worth, TX 76113, USA.	
	C22	FIELD, RICHARD J., and NOYES, RICHARD M. "Oscillations in Chemical Systems IV Limit Cycle Behavior in a Model of a Real Chemical Reaction," J. Chem. Physics, Vol. 60, No. 5.Mar. 1974.	

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	C23	GI-10 Guitar-Midi Interface, Roland Corporation, 7200 Dominion Circle, Los Angeles, CA 90040-3696, USA.	
	C24	GRAY,PETER, and SCOTT,STEPHEN K, "Chemical Oscillations and Instabilities," 1990, Clarendon Press, Oxford, Great Britain.	
	C25	GSP 21 LEGEND, Digitech, 8760 South Sandy Parkway, Sandy, UT 84070, USA.	
	C26	GZOWSKI, JOHN "Sirens and Sympathetics", Experimental Musical Instruments, Jun. 1997, vol. 12, No. 4.	
	C27	HARA, YOSHIKO "Matsushita demos multilayer MPEG-4 compression", Electronic Engineering Times, Apr. 19, 1999.	
	C28	JOHNSON, COLIN "Computer program recognizes facial expressions", Electronic Engineering Times, Apr. 12, 1999.	
	C29	JOHNSON, COLIN "Image sensor tracks moving objects in hardware", Electronic Engineering Times, Apr. 5, 1999.	
	C30	Kaoss pad dynamic effect/controller, Korg Proview Users' magazine, Summer 1999.	
	C31	KING and WHITE, "Tactile Sensing Array Based on Forming and Detecting an Optical Image," UC Berkeley Preprint.	
	C32	KURAMOTO, YOSHIKI, "Rhythms and Turbulence in Populations of Chemical Oscillators", Physica 106A (1981), pp. 128-143, North-Holland.	
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	C34	LEIBERMAN, DAVID "Touch screens extend grasp into consumer realm" Electronic Engineer-ing Times, Feb. 8, 1999.	
	C35	Light Wave Pickups, Audio Optics, Santa Barbara, CA., USA.	
	C36	LIM, AGRAWAL, and NEKLUDOVA "A Fast Algorithm for Labeling Connected Components in Image Arrays", Technical Report Series, No. NA86-2, Thinking Machines Corp., 1986 (rev. 1987), Cambridge, Mass., USA.	
	C37	Lord LTS-300T Tactile Array Sensor, Lord Corp., Ind. Aut. Div., 407 Gregson Dr., PO Box 8200, Cary, NC, 27511-8200, USA.	
	C38	LUDWIG, L., "A Generalized Linear Amplitude Processor," Electronotes, Dec. 1979, vol. 11, No. 108.	
	C39	LUDWIG, L., "A Square-Wave Frequency-Division Sub-Octave Cross-Product Module, " Electronotes, Feb. 1979, Vol. 11, No. 98.	
	C40	LUDWIG, L., "GLAP Revisited," Electronotes, Jul. 1981, vol. 13, No. 127.	
	C41	LUSHER, E. (unk) "Photoacoustic effect: principles and applications: proceedings of the First International Conference on the Photoacoustics," 1984, Vieweg.	
	C42	MIDI Player MP-88, Miditemp, Max-Halbe-Strasse 1 85716 Unterschleissheim, Germany 0049-89-3-10-61-38.	
	C43	MOOG, ROBERT A. "The Human Finger-A Versatile Electronic Music Instrument Component", Audio Engineering Society Preprint, 1977, New York, NY, USA.	
	C44	MS4-MS3 Solton, Ketron lab, dist. By Bell Douvoux Corp. 126 Rt. 303, 10994 W. Nyack, NY, USA.	

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	C45	MURPHY, AAMODT, Spicer and Royce (eds) Photoacoustic and Photothermal Phenomena II, 1990, vol. 62, Springer-Verlag, Berlin Heidelberg, Germany.	
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Application Number	
Filing Date	10 October 2003
First Named Inventor	Lester F. Ludwig
Group Art Unit	
Examiner Name	
Attorney Docket Number	2738-16

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Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
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	C89	Yamaha FS1R, Electronic Musician, Dec., 1998.	
	C90	Yamaha WX11 and WT11, Midi Magazine Mar./Apr. 1994. Yamaha Corp. of America, 6600 Orangethorpe Ave., PO Box 6600 Buena Park, CA 90622-6600, 714 522-9011.	
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